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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,943	05/09/2006	Shigeo Iizuka	126691	5357

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EXAMINER	
SHEARER, DANIEL R	
ART UNIT	PAPER NUMBER
3754	

MAIL DATE	DELIVERY MODE
11/04/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/564,943	IIZUKA ET AL.	
	Examiner	Art Unit	
	DANIEL R. SHEARER	3754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,813,576 to Iizuka et al. (Iizuka) in view of U.S. Patent No. 4,925,106 to Maas et al. (Maas).

Iizuka shows a foamer dispenser (Fig. 50) comprising: a base cap (150) fixedly held at a container mouth; two pumps (10 and 20) attached to the base cap and configured to separately suck, pressurize, and pressure-feed ambient air and the liquid contents filled in the container (Col. 22, ll. 23-67, Col. 23, ll. 57-67 and Col. 24, ll. 1-26); a depression head (100) for defining a merging space (46) for merging outlet passages

of the pumps with each other, the depression head having an ejecting end (107) communicated with the outside, and the depression head having an internal passage (108b) for communicating the merging space with the ejecting end, so as to eject contents mixed with the ambient air from the ejecting end by repeating depressing and returning operations of the depression head (Col. 23, ll. 3-14); and a foaming element (131, 132, 133) disposed within the internal passage of the depression head (Fig. 50) and configured to foam the contents mixed with the ambient air (Col. 50, ll. 12-18). The foaming element comprises: a jet ring (131) having an inlet opening (134) with an opening area narrower than that of the internal passage of the depression head (Fig. 50), the jet ring comprising a tubular body (Col. 18, ll. 63-66) with an opening area larger than that of the inlet opening and communicated with the internal passage of the depression head (Fig. 50); and a mesh (132, 133) disposed within the tubular body of the jet ring so as to face to the inlet opening of said jet ring (Fig. 51). The mesh has a number of fine holes to be contacted with the contents mixed with the ambient air and supplied from the inlet opening to allow a part of the contents to pass through the mesh (Col. 19, ll. 12-20). The mesh further has an opening diameter larger than that of the inlet opening of said jet ring (Fig. 51).

Iizuka fails to specifically disclose that the mesh has an opening diameter Φ2 which is 2.0 to 3.5 times or 2.2 to 3.2 times as large as an opening diameter Φ1 at the inlet opening of said jet ring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have manufactured the foamer dispenser of Iizuka with the specified ratio of the diameter of the mesh opening to diameter of the

inlet opening since it has been held where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. (See MPEP 2144.05).

Iizuka discloses that the mesh is adjustable between a plurality of positions to achieve optimum bubble size (Col. 52, ll. 66-67, Col. 53, ll. 1-19) but is silent with respect to how the mesh is attached to the jet ring and therefore fails to disclose at least two pairs of ribs being formed at least at two positions inside the jet ring to allow for a plurality of positions for fixing the mesh

Maas shows a foamer dispenser (Fig. 1) comprising a container (16), pump (10), and foaming nozzle (Fig. 12) with a mesh (160) secured in the nozzle body by a pair of ribs (171, 172) to facilitate an interference fit (Col. 8, ll. 57-62). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the jet ring and mesh of Iizuka with ribs as taught by Maas to facilitate an interference fit. It would have further been obvious to provide at least two pairs of ribs to correspond to the plurality of mesh positions taught by Iizuka.

Regarding claim 3, Iizuka shows that the jet ring has a tapered surface (131b) or curved surface connecting between said inlet opening and said mesh.

Regarding claim 4, Iizuka shows that the pumps consist of a dual pump comprising: a cylinder (22) suspended from a lower surface of said base cap (150), and configured to cooperate with an inner periphery of the mouth of the container to define an annular gap (27) there between which is communicated with an interior of the mouth and sealed by said base cap (Fig. 50); and two pistons (50 and 60) arranged in series

with each other within said cylinder so as to be slidable therein (Figs. 50 and 51); and wherein said pistons are configured to separately suck, pressurize, and pressure-feed the contents within the container and the ambient air (Col. 22, ll. 23-67, Col. 23, ll. 57-67 and Col. 24, ll. 1-26).

Regarding claim 5, Iizuka shows that the dual pump is formed with an ambient air introduction port (64) at a cylinder portion (22) constituting the pump for sucking, pressurizing, and pressure-feeding the ambient air, the ambient air introduction port being blocked by said piston (Col. 21, ll. 7-22) for sucking, pressurizing, and pressure-feeding the ambient air when said piston is in a stationary state (Fig. 49) where said piston is kept unslid, and the ambient air introduction port being released from said piston when said piston is depressed, to thereby introduce ambient air into the container (Fig. 51).

Regarding claims 6 and 7, It would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided ribs at the side of the depression head and at the side of the inlet opening of Iizuka as modified by Maas to correspond to the mesh positions shown in Figures 52 and 53 of Iizuka.

Regarding claim 9, Iizuka discloses that the mesh of the jet ring is circular in transverse cross sectional shape (Col. 19, ll. 12-14) and the inlet opening of the jet ring is circular in transverse cross sectional shape (Col. 18, ll. 63-67 and Col. 19, ll. 1-11).

Response to Arguments

4. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL R. SHEARER whose telephone number is (571)270-7416. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571)272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. R. S./
Examiner, Art Unit 3754

/Kevin P. Shaver/
Supervisory Patent Examiner, Art Unit 3754